CLAIMS:

and

1. A network switch or switching packets from a source to a destination, said network switch including:

a source port for receiving an incoming packet from a source; a destination port which contains a path to a destination for the packet;

a programmable counter unit for counting a number of packets of selected packet types which are received by the switch.

- 2. A network switch as recited in claim 1, wherein said programmable counter unit comprises a filter unit which parses selected fields of an incoming packet and compares the selected field to a table to determine whether the incoming packet is of a selected packet type.
- A network switch as recited in claim 1, further comprising:
 a CPU interface for connecting the network switch to a remote CPU,
 wherein said remote CPU is used to program the programmable counter unit.
- 4. A network switch as recited in claim 1, said network switch further comprising:

an internal memory for storing first selected incoming packets therein; a memory management unit comprising an external memory interface for interfacing with an external memory, said external memory interface being configured to send second selected incoming packets to the external memory; and

a communication channel for communicating data and messaging information between the source port and the destination port, the internal memory, and the memory management unit.

- 5. A network switch as recited in claim 1, wherein the counter unit includes a rules table therein, said rules table being programmed to store rules which control packet flow of a selected packet type after a number of counted packets of a selected packet type exceeds a predetermined threshold.
- 6. A network switch as recited in claim 1, wherein said counter unit is configured to provide separate counts of a plurality of different types of

Sub K incoming packets, and take different action based upon different count values for the different packet types.

